Exhibit 10

Docket No. 042106.0003

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Dong Ryeol SHIN, et al.

Application No. 13/924,186 Art Unit: 3717

Confirmation No. 1551

Filed: June 21, 2013 Examiner: Milap Shah

For: MOBILE TERMINAL-BASED VIRTUAL GAME CONTROLLER AND REMOTE CONTROL SYSTEM USING THE SAME

AMENDMENT UNDER 37 CFR §1.111

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is in response to the Office Action mailed January 13, 2016, and having a period for response set to expire on April 13, 2016.

The following amendments and remarks are respectfully submitted. Reconsideration of the claims is respectfully requested.

Amendments to the claims are reflected in the listing of the claims that begins on page **2** of this Paper.

Remarks begin on page **8** of this Paper.

IN THE CLAIMS:

This listing of the claims replaces all prior versions and listings of the claims in this application.

The text of all pending claims (including any withdrawn claims) is set forth below. Canceled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is listed with one of (Original), (Currently Amended), (Cancelled), (Withdrawn), (Previously Presented), (New), and (Not Entered).

Please **AMEND** claims 1-10, 12, and 15 in accordance with the following:

1. (Currently Amended) A mobile terminal comprising: a virtual controller client~~, the virtual controller client operating based on a mobile terminal so that the virtual controller client is allowed~~ configured to remotely communicate with a virtual controller server running on a computer for remote key input on an application running on the computer, the virtual controller client comprising:

a button setting adjusting unit configured to receive button setting information including mapping relationship between key inputs to the application and virtual input messages ~~from the virtual controller server~~, and to specify an arrangement and attributes of virtual buttons based on the received button setting information;

a user virtual button interface configured to generate a virtual button screen in which touch regions corresponding to the virtual buttons are visually displayed, and to display the virtual button screen on a touch screen of the mobile terminal;

a touch event filter configured to generate touch input messages that can be recognized as key inputs by the application, based on touch event objects that are generated from touch signals, of the touch regions corresponding to the virtual buttons, among touch signals input by the touch screen; and

a client message interfacing unit configured to convert the touch input message into a virtual input message in a form that can be recognized by the virtual controller server, and to output the virtual input message.

2. (Currently Amended) The ~~virtual controller client~~ mobile terminal of claim 1, wherein:

the user virtual button interface activates an acceleration sensor of the mobile terminal so that movements of the mobile terminal can be detected~~; and~~, and

~~wherein~~ the virtual controller client further comprises:

an acceleration data filter configured to generate a movement input message that ~~can be recognized as~~ is mapped to a key input ~~by~~ of the application, based on acceleration data that is generated based on an acceleration signal generated by the acceleration sensor; and

the client message interfacing unit operable to convert the touch input message or the movement input message into a virtual input message in a form that can be recognized by the virtual controller server and to output the virtual input message.

3. (Currently Amended) ~~A~~The mobile terminal of claim 1, further comprising a computer-readable storage medium storing a program that is run by the virtual controller client ~~set forth in claim 1~~.

4. (Currently Amended) A computer comprising: a virtual controller server~~, the virtual controller server operating on a computer so that the virtual controller server is allowed~~ configured to remotely communicate with a virtual controller client running on a remote mobile terminal including a touch screen for remote key input on an application running on the computer, the virtual controller server comprising:

a button setting generating unit configured to generate button setting information including mapping relationship between key inputs to the application and virtual input messages;

a server message interfacing unit configured to transmit a setting message including the button setting information to the virtual controller client, and to receive a virtual input message from the virtual controller client, the virtual input message being generated based on a touch on the touch screen of the mobile terminal; and

a key mapping unit configured to identify a key input value mapped to the received virtual input message based on the button setting information.

5. (Currently Amended) The ~~virtual controller server~~ computer of claim 4, wherein the mobile terminal further comprises an acceleration sensor configured to detect movements, and wherein the server message interfacing unit operable to receive a virtual input message generated based on a movement of the mobile terminal.

6. (Currently Amended) The ~~virtual controller server~~ computer of claim 4, wherein the key mapping unit transfers a key input value to the application via a message transfer architecture of an operating system that runs the application on the computer.

7. (Currently Amended) The ~~virtual controller server~~ computer of claim 4, wherein the key mapping unit transfers a key input value to the application via an input and output application programming interface (API) of an operating system that runs the application on the computer.

8. (Currently Amended) ~~A~~ The computer of claim 4, further comprising a computer-readable storage medium storing a program that is run by the virtual controller server ~~set forth in claim 5~~.

9. (Currently Amended) A remote control system, comprising:

a computer including a virtual controller server~~, being operated on a computer, for generating~~ configured to generate button setting information including mapping relationship between key inputs to an application running on the computer and virtual input messages, transfers the button setting information to a virtual controller client, for extracting a key input from a virtual input message received from the virtual controller client, and for providing the key input to the application; and

~~a virtual~~ a mobile terminal including a touch screen and the virtual controller client, ~~being operated on a mobile terminal including a touch screen and~~ the virtual controller client being configured to remotely communicate with the computer, for specifying an arrangement and attributes of virtual buttons based on the button setting information received from the virtual controller server, for generating a virtual button screen in which touch regions corresponding to the virtual buttons are visually displayed on the touch screen of the mobile terminal, for

generating a touch input message that can be recognized as a key input by the application, based on touch event objects generated based on touch signals for the touch regions corresponding to the virtual buttons, and for converting the touch input message into a virtual input message in a form that can be recognized by the virtual controller server and output the virtual input message.

10. (Currently Amended) The remote control system of claim 9, wherein:

the mobile terminal further comprises an acceleration sensor configured to detect movements; and

the virtual controller client operates such that it activates an acceleration sensor of the mobile terminal so that movements can be detected, generates a movement input message that ~~can be recognized as~~ is mapped to a key input ~~by~~ of the application, based on acceleration data that is generated based on an acceleration signal generated by the acceleration sensor, and converts the touch input message or movement input message into a virtual input message in a form that can be received by the virtual controller server and then outputs the virtual input message.

11. (Original) A remote controller interfacing method, the remote controller interfacing method using a virtual controller server running on a computer and a virtual controller client running based on a remote mobile terminal including a touch screen for remote key input on an application running on the computer, the remote controller interfacing method comprising:

generating, by the virtual controller server, button setting information including mapping relationship between key inputs required by the application and virtual input messages to be transmitted by the virtual controller client, to be transferred to the virtual controller client;

specifying, by the virtual controller client, an arrangement and attributes of virtual buttons based on the button setting information, and displaying, by the virtual controller client, a virtual button screen in which the virtual button regions are visually arranged on the touch screen;

generating, by the virtual controller client, touch event objects based on a touch signal generated by the touch screen, and further a touch input message based on the valid touch event objects;

transferring, by the virtual controller client, a virtual input message generated based on

the touch input message to the virtual controller server;

identifying, by the virtual controller server, a key input value mapped to the received virtual input message based on the button setting information; and

transferring, by the virtual controller server, the identified key input value to the application.

12. (Currently Amended) The remote controller interfacing method of claim 11, wherein:

the mobile terminal further comprises an acceleration sensor configured to detect movements; and

the remote controller interfacing method further comprises:

generating, by the virtual controller client, a movement input message that ~~can be recognized as~~ is mapped to a key input ~~by~~ of the application, based on acceleration data that is generated based on an acceleration signal generated by the acceleration sensor; and

converting, by the virtual controller client, the movement input message into a virtual input message in a form that can be received by the virtual controller server, and outputting, by the client, the virtual input message.

13. (Original) The remote controller interfacing method of claim 11, wherein the key input value identified by the virtual controller server is transferred to the application via a message transfer architecture of an operating system that runs the application on the computer.

14. (Original) The remote controller interfacing method of claim 11, wherein the key input value identified by the virtual controller server is transferred to the application via an input and output API of an operating system that runs the application on the computer.

15. (Currently Amended) A non-transitory computer-readable storage medium storing ~~a program that can implement the remote controller interfacing method set forth in claim 11~~ instruction that causes a computer and a remote mobile terminal to perform a remote controller interfacing method, the remote controller interfacing method using a virtual controller server running on the computer and a virtual controller client running based on the remote mobile

terminal including a touch screen for remote key input on an application running on the computer, the remote controller interfacing method comprising:

generating, by the virtual controller server, button setting information including mapping relationship between key inputs required by the application and virtual input messages to be transmitted by the virtual controller client, to be transferred to the virtual controller client;

specifying, by the virtual controller client, an arrangement and attributes of virtual buttons based on the button setting information, and displaying, by the virtual controller client, a virtual button screen in which the virtual button regions are visually arranged on the touch screen;

generating, by the virtual controller client, touch event objects based on a touch signal generated by the touch screen, and further a touch input message based on the valid touch event objects;

transferring, by the virtual controller client, a virtual input message generated based on the touch input message to the virtual controller server;

identifying, by the virtual controller server, a key input value mapped to the received virtual input message based on the button setting information; and

transferring, by the virtual controller server, the identified key input value to the application.

REMARKS

Claims 1-15 currently are pending, with claims 1-10, 12, and 15 being amended by way of this Paper. Support for these amendments can be found throughout the specification as filed, for example, at least Figure 1 and paragraph [0049] of the published application. Accordingly, it is respectfully submitted that the above amendments introduce no new subject matter. Reconsideration of the pending application is respectfully requested in view of the amendments and the following remarks.

Claim Rejection Under 35 USC §112, second paragraph

Claims 1-10 are rejected under 35 USC §112, second paragraph, as being indefinite. Applicants submit that amended claims 1-10 are not indefinite. For example, the antecedent basis issue previously affecting claim 9 is herein addressed. Additionally, Applicants note that amended claims 1-10 are directed to either a mobile terminal, a computer, or a system which includes physical structures. The written description of the specification also discloses a computer and/or mobile terminal (see e.g., Figure 1). Therefore, Applicant kindly requests withdrawal of the rejection of claims 1-10 as being indefinite.

Claim Rejection Under 35 USC §112, fourth paragraph

Claims 3, 8, and 15 are rejected under 35 USC 112, fourth paragraph, as being improper dependent claims. Applicants submit that claims 3 and 8, as amended, are proper dependent claims. For example, each of claims 3 and 8 further limit the subject matter of the claim upon which it depends. Claim 15 has been converted to an independent claim. Therefore, Applicants kindly request withdrawal of the rejection of these claims as being improper dependent claims.

Claim Rejections Under 35 USC §§102(b) and 103(a)

Claims 1, 3, 4, 6-9, 11, and 13-15 are rejected under 35 USC §102(b) as being anticipated by *Porwal* (US 2011/0009195), and claims 2, 5, 10, and 12 are rejected under 35 USC §103(a) as being unpatentable over *Porwal* in view of *Ohta* et al. (US 2012/0044177). Applicants traverse these rejections for at least the following reasons.

Independent claims 1, 4, 9, and 11

Porwal fails to disclose button setting information including mapping relationship between key inputs to the application and virtual input messages, as presently recited in independent claim 1 and similarly recited in independent claims 4, 9, and 11. In fact, *Porwal* fails to disclose any mapping relationship, as the term would have been understood by one of ordinary skill in the art, let alone the specific mapping relationship recited. For clarification, an example of a mapping arrangement is described in paragraph [0067] of this application. Instead of a mapping relationship, *Porwal* discloses a game controller 103 with virtual control buttons 108, 110, 112 (see, paragraph [0024]). As game controller 103 is the only game controller disclosed in *Porwal*, there is no suggestion that the virtual control buttons 108, 110, 112 are mapped key inputs to the corresponding application. Rather, upon actuation of the virtual control buttons 108, 110, 112, a signal corresponding to the specific button being actuated is sent (e.g. see, paragraphs [0039] and [0041]), rather than the signal corresponding to another button to which the virtual control button is mapped. That is, *Porwal* fails to disclose a mapping relationship, as recited in claims 1, 4, 9, and 11. Therefore, Applicants submit that *Porwal* fails to disclose each and every feature, and the combination thereof, recited in the independent claims. Accordingly, Applicants kindly request withdrawal of the rejection of claim claims 1, 4, 9, and 11.

Dependent claims 2, 3, 5-8, 10, and 12-15

Applicants submit that claims 2, 3, 5-8, 10, and 12-15 are considered allowable for at least the reason that they each depend from an allowable independent claim. Other reasons include, but are not limited to, the features recited in each of claims 2, 3, 5-8, 10, and 12-15, which may be discussed at a later time if expedient to do so. For example, *Porwal* and *Ohta* fail to disclose an acceleration data filter that is configured to generate a movement input message that is mapped to a key input of the application, as currently recited in claim 2. Therefore, Applicants kindly request withdrawal of the rejections of these claims.

Conclusion

Applicant has amended the claims to further prosecution for a disclosed embodiment, and not in response to the merits of the outstanding rejections. Applicant reserves the right to prosecute broader claims or embodiments, including the original claims, in a continuing application.

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Office is requested to telephone the undersigned to attend to these matters.

In the event this paper is not being timely filed, Applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees only associated with the processing of this Response and any other documents filed concurrently with this Paper may be charged to Counsel's Deposit Account 50-5113.

Respectfully submitted,

Date: April 12, 2016

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Electronic Acknowledgement Receipt

EFS ID:	25472069
Application Number:	13924186
International Application Number:	
Confirmation Number:	1551
Title of Invention:	MOBILE TERMINAL-BASED VIRTUAL GAME CONTROLLER AND REMOTE CONTROL SYSTEM USING THE SAME
First Named Inventor/Applicant Name:	Dong Ryeol SHIN
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Application Type:	Utility under 35 USC 111(a)

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Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		OA20160113_0421060003_AmendAsFiled.pdf	63751 73b03ac2634f3d214b50fc1bc7168dbe7065db78	yes	10

Multipart Description/PDF files in .zip description

Document Description	Start	End
Amendment/Req. Reconsideration-After Non-Final Reject	1	1
Claims	2	7
Applicant Arguments/Remarks Made in an Amendment	8	10

Warnings:

Information:

Total Files Size (in bytes):	63751

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National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number	Filing Date	☐ To be Mailed
13/924,186	06/21/2013	

ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☒ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	**140**
☒ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	**300**
☒ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	**360**
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	**800**

APPLICATION AS AMENDED – PART II

AMENDMENT **04/12/2016**

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 15	Minus	** 20	= 0	X $40 =	0
Independent (37 CFR 1.16(h))	* 4	Minus	***4	= 0	X $210 =	0
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	**0**

AMENDMENT

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/KATINA TOBIN/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.